THE START-UP OF ALUMINIUM ELECTROWINNING CELLS

ABSTRACT

A method of protecting during the start-up procedure a cathode (1) of a cell for the electrowinning of aluminium where the cathode (1) is optionally coated with an aluminium-wettable refractory material (2) and on which cathode, in use, aluminium is produced. The start-up procedure comprises applying before preheating the cell one or more start-up layers (3) on the aluminium-wettable refractory coating (2). The start-up layer(s) form(s) a temporary protection (3) against damage of chemical and/or mechanical origin to the aluminium-wettable coating (2), this temporary protection (3) being in intimate contact with the aluminium-wettable coating (2) and being eliminated before or during the initial normal operation of the cell. The layers of the temporary protection (3) may be obtained from at least one pliable foil of aluminium having a thickness of less than 0.1 mm and/or an applied aluminium-containing metallization, optionally in combination with inter alia a boron-containing solution, a polymer, a phosphates of aluminium-containing solution, or a colloid that gels while preheating the cell, or combinations thereof.